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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/904,541	07/16/2001	Reuel W. Nash	1930.0090001	2299
26111	7590	11/01/2005	EXAMINER	
STERNE, KESSLER, GOLDSTEIN & FOX PLLC 1100 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			SINGH, DALIP K	
			ART UNIT	PAPER NUMBER
			2671	

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/904,541

Applicant(s)

NASH ET AL.

Examiner

Dalip K. Singh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 and 29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Response to Amendment

1. This Office Action is in response to applicant's amendment dated August 1, 2005 in response to PTO Office Action dated June 2, 2005. The amendments to claim(s) 1, 6, 11, 12, 18, 24-27 and 29; cancellation of claim 28 have been noted and entered in the record, and applicant's remarks have been carefully considered resulting in the action as set forth herein below.
2. Applicant's arguments filed with respect to claims 1, 11, 18 and 24 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-26, 27 and 29 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,914,724 to Deering et al. in view of U.S. Patent No. 5,398,321 to Jeremiah.

- a. Regarding claims 1, 11 & 18, Deering et al. **discloses** evaluating a mode command to initiate or change a mode, selecting a combination of functions; validating or optimizing one or more of the functions (...microcode storage may thus be reduced, and lighting performance may be increased by optimizing for the single routine... col. 3, lines 5-10) and delivering said combination to a microcode processor (floating point processors 152, Fig. 3)(...the command block 142 interfaces...controls the transfer of data...col. 4, lines 59-67...the floating point processors 152A-152F receive high level drawing commands...col. 5, lines 1-12...these commands and data...are passed in turn to

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floating point processors 152...col. 6, lines 1-14...the L-core block 354 performs most...calculations using...microcode...col. 6, lines 37-47). However, Deering et al. **fails to disclose** searching for a faster version of a function selected for said combination. Jeremiah **discloses** for compounded instructions, microinstruction sequence being fetched and **merged** to produce a single microinstruction sequence able to control the compounded instructions (...the results of the decision making can be preserved with the instructions and reused in the event that the same instructions are used a second or further time...this instruction tagging process is...as “compounding”...col. 2, lines 50-65; col. 3, lines 45-60). The instant application specification **discloses** sequence identifier 218 determining if a faster version (or **merger group**) of the sequence exists; and uses a merger group(s) when possible to optimize microcode processing (page 20, paragraph 75). Jeremiah thus **discloses** similar operations as detailed by the instant claim limitation and as described in the application specification. Therefore, it would have been obvious to a person of ordinary skill in the art at the time invention was made to modify the device as taught by Deering with the feature “merging to produce single microinstruction sequence” as taught by Jeremiah **because** it optimizes microcode processing resulting in efficient instruction execution.

b. Regarding claim 2, Deering et al. **discloses** querying a storage medium (memories 152A-152F...32kx36-bit SRAM...are used for microcode and data storage...col. 5, lines 10-12) to select said combination (...the F-Core block 352 is fully programmable, using a 36-bit microword instruction word stored in a 32k word SRAM...the L-Core block 354 performs most lighting calculations using on-chip RAM-based microcode...col. 6, lines 34-38).

c. Regarding claim 3, Deering et al. **discloses** a microcode instruction memory (memories 152A-152F).

- d. Regarding claims 4, 5, 12, 13, 17, 19, 20 and 23 Deering et al. **discloses** loading a sequence list into a microcode data memory, wherein said sequence list includes a memory address to said combination (...F-Core block 352...includes a dispatch code that indicates which microcode procedure to run...col. 7, lines 53-63).
- e. Regarding claims 6, 14 and 21, Deering et al. **discloses** sending a result from said executing step to a processor for pixel processing or additional microcode processing (...each of the floating point blocks 152A-F connects to each of two draw processor 172A and 172B...perform screen space rendering...and operate to sequence ...the completed pixels...col. 5, lines 13-26).
- f. Regarding claim 7, Deering et al. **discloses** microcode processing being done prior to said executing step (See col. 8, lines 15-28).
- g. Regarding claims 8-10, 15, 16 and 22, Deering et al. **discloses** three dimensional graphics, animation scene and video game rendering (...a three-dimensional (3-D) graphics accelerator...comprises...a video monitor or display device...various types of display monitor or devices...col. 3, lines 45-61).
- h. Regarding claim 24, it is similar in scope to claim 8 above and is rejected under the same rationale.
- i. Regarding claim 25, it is similar in scope to claim 1 above and is rejected under the same rationale.
- j. Regarding claims 26, 27 and 29, Deering et al. **discloses** preprocessing data for said combination to calculate values used repetitively during said executing step (...the command block 142 also pre-processes triangle and vector data and performs geometry data...col. 4, lines 59-65; ...microcode storage may thus be reduced, and lighting performance may be increased by optimizing for the single routine... col. 3, lines 5-10).

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Conclusion


5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Dalip K. Singh** whose telephone number is **(571) 272-7792**. The examiner can normally be reached on Mon-Friday (10:30AM-6:30PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Ulka Chauhan**, can be reached at **(571) 272-7782**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, please contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). Please note that the new Central Official FAX number for application specific communications with the USPTO is **571-273-8300** (effective July 15, 2005).

Dalip K. Singh
Examiner, Art Unit 2671

dks
October 18, 2005


ULKA J. CHAUHAN
PRIMARY EXAMINER